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Brookhaven National Laboratory National Synchrotron Light Source	**Number:** LS-PPS-0010	**Revision:** B
	Effective: 3/29/02	**Page** 1 of 3
Subject: **Hutchless Beamline Radiological Interlock Test**		
Prepared/ Approved By: M. Buckley	**Approved By:** S.Buda	Revision/Periodic Review Log

*Approval signatures on file with master copy.

BEAMLINE:	Test Result: ☐ Passed ☐ Failed	
Test Reason:	Test Type: ☐ Full ☐ Partial	
Test Date:	Start Time:	Finish Time:
Tester 1:	Assistant 1:	
Tester 2:	Assistant 2:	

PREPARATION:

Inform control room operator that test will be done. _____

Turn off 'Red Tag' switch on x-ray ring interlock, and apply LOTO to X-Ray Security system. _____

Verify that vacuum valves and water interlocks are satisfied on the beam lines that will be checked for Phase I beamlines or connect user interlock test jumper. _____

1. Leave shutters closed.

   Beamline lockout key cannot be removed from SRU unless button is pushed _____

2. Open safety shutter.

   Beamline lockout key cannot be removed even if button is pushed _____

3. Close shutter. Turn KKH and note where solenoid unit stops rotation. Push the button and turn key just beyond this point, but not far enough to actuate "key removed" switch. Release the button and leave key in this position. Open safety shutter, remove KKH, and replace.

   RIA latch light comes on _____
   RIB latch light comes on _____
   The safety shutter closes _____
   RIA cannot be reset without SOR _____
   RIB cannot be reset without SOR _____
   SPA comes on _____
   SPA can't be reset w/o SOR _____

4. Observe the photon shutter while it is opened and closed (if applicable).

The mechanism moves freely and without hesitation	_____
Switches are secure and switch actuator depresses each switch properly	_____
Jam nut on cylinder shaft is tight	_____

5. Open the safety shutter. Remove the Control Room Shutter Enable Key for this beam line, then replace the key.

The safety shutter closes	_____
RIA latch light comes on	_____
The "Control Room Shutter Enable" light goes out	_____
The SPA latch comes on (after the key is back on)	_____
The safety shutter cannot be opened	_____

Reset RIA and SPA

6. Open the Safety Shutter.
Turn "Auto Open" key to "ON" (if key switch is installed on beamline).
At the Control Room Operator's Console, switch the shutter master enable to "Inhibit" and back to "Enable"

The safety shutter closes	_____
And then re-opens	_____

Turn "Auto Open" key to "OFF" - Disregard this step if key switch is not installed.
Switch the master enable to "Inhibit" and back to "Enable"

The safety shutter closes	_____
And does NOT re-open	_____

7. One person goes to the x-ray equipment area and resets the indicators for RIAX and RIBX at SR100.
   Cheat the beam line lockout key.
   Open the safety shutter and photon shutter (if equipped).
   Remove the key and then replace it.

   RIB latch light comes on _____
   RIBX "Loop Enabled" indicator goes out _____
   RIBX "Loop Disabled" indicator comes on _____
   RIBX cannot be reset _____

   RIA latch light comes on _____
   RIAX "Loop Enabled" indicator goes out _____
   RIAX "Loop Disabled" indicator comes on _____
   RIAX cannot be reset _____

   The safety shutter closes _____
   The photon shutter closes (if equipped) _____

   Reset RIB

   RIBX CAN be reset
   ("Loop Enabled" indicator comes on) _____

   Reset RIA

   RIAX CAN be reset
   ("Loop Enabled" indicator comes on) _____

8. Locate the safety shutter associated with the beam line by tracing the beam pipe through the shield wall. Do not rely on labels on the shutter mechanism. Open and close the shutter two times.

   The correct shutter opens _____
   No other shutter at that saw tooth opens or attempts to open _____
   The mechanism moves freely and without hesitation _____

9. Remove user interlock test jumper (if applicable). _____

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